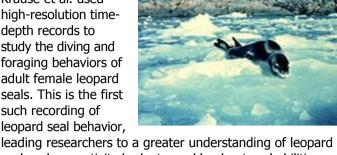


# 2016 **QUARTERLY ISSUE #1**

## **High-resolution time-depth** records improve understanding of leopard seal behavioral ecology

Krause et al. used high-resolution timedepth records to study the diving and foraging behaviors of adult female leopard seals. This is the first such recording of leopard seal behavior,



seal ecology, activity budgets, and haul-out probabilities. During January and February from 2008 to 2014,

researchers recorded 40,308 dives averaging about 2 minutes each, 90% of which were shallow ( $\leq$ 30 m deep). Most dives occurred at night, although haul-outs were positively correlated with available daylight.

These data also indicated individual differences in foraging effort by time of day and across years, and reveal the importance of benthic searching as a foraging strategy for leopard seals. Finally, this study supports indirect pathways of this apex predator's top-down forcing on Antarctic coastal ecosystems and, as a result, international fisheries and indicator species.

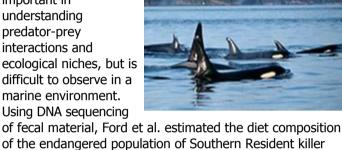
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## **Southern Resident** killer whales eat mostly salmon in the Salish Sea summer range



important in understanding predator-prey interactions and ecological niches, but is difficult to observe in a marine environment. Using DNA sequencing

Species diet is



whales. The researchers inferred diet composition by the percentage

of genetic sequence represented in the samples.

Unsurprisingly, more than 98.6% of the samples were salmonids and the majority of those were Chinook salmon (79.5%) and Coho salmon (15%). Composition varied temporally, with killer whales eating more Chinook salmon in early summer and consuming more Coho salmon (increasing to >40%) in late summer. This method confirms the findings of previous diet composition studies based on surface prey remains and

highlights the importance of one group of endangered species (salmonids) to another. **Read More** 

California sea lion pup food

### for breeding females The California sea lion population has

is limited by poor-quality forage

increased in the last 40 years. However, recent trends in pup nutrition may have long-term consequences on the population numbers



decreased. The researchers used a long-term, fishery-independent data set to explore this impact of forage decline on California sea lion productivity. Furthermore, a model identified forage quality in the female sea lion foraging range as the best

explanation for the variance in pup weight. Thus, food

decrease in forage species quality, sea lion pup weights also

quality of foraging females has consequences for the next generation. The researchers suggest that the trend in forage decline is driven by environmental factors, due to the large spatial scale at which this trend is observed. If low-quality forage continues, California sea lion population numbers may be

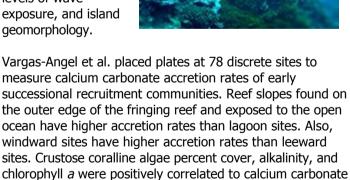
Crustose coralline algae may facilitate reef-building

In the central and south Pacific Oceans,

impacted. **Read More** 

### calcium carbonate accretion rates vary within and between islands, reef zones,

levels of wave exposure, and island geomorphology.



accretion rate. This study demonstrates that crustose coralline algae are vulnerable to changes in ocean pH, and acidified ocean conditions can have adverse implications for other reef calcifying taxa. **Read More** 

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